

Ram Naresh Bharagava  
Editor

# Environmental Contaminants: Ecological Implications and Management

 Springer

# Contents

<b>1</b>	<b>Agro-industrial Wastes: Environmental Toxicology, Risks, and Biological Treatment Approaches . . . . .</b>	<b>1</b>
	Débora da Silva Vilar, Ianny Andrade Cruz, Nádia Hortense Torres, Renan Tavares Figueiredo, Luciano de Melo, Iraí Tadeu Ferreira de Resende, Katlin Ivon Barrios Eguiluz, Ram Naresh Bharagava, and Luiz Fernando Romanholo Ferreira	
<b>2</b>	<b>Remediation and Management of Petrochemical-Polluted Sites Under Climate Change Conditions . . . . .</b>	<b>25</b>
	Pankaj Kumar Gupta and Brijesh Kumar Yadav	
<b>3</b>	<b>Phycoremediation: Role of Algae in Waste Management . . . . .</b>	<b>49</b>
	Polur Hanumantha Rao, Ramanathan Ranjith Kumar, and Natarajan Mohan	
<b>4</b>	<b>Aspects of CO<sub>2</sub> Injection in Geological Formations and Its Risk Assessment . . . . .</b>	<b>83</b>
	Shachi, Pankaj Kumar Gupta, and Brijesh Kumar Yadav	
<b>5</b>	<b>Microbial Degradation of Polyaromatic Hydrocarbons . . . . .</b>	<b>101</b>
	Tayssir Kadri, Agnieszka Cuprys, Tarek Rouissi, and Satinder Kaur Brar	
<b>6</b>	<b>Splendid Role of Nanoparticles as Antimicrobial Agents in Wastewater Treatment . . . . .</b>	<b>119</b>
	Viabhav Kumar Upadhayay, Amir Khan, Jyoti Singh, and Ajay Veer Singh	
<b>7</b>	<b>Metagenomics for Novel Enzymes: A Current Perspective . . . . .</b>	<b>137</b>
	Dinesh Yadav, Aiman Tanveer, and Sangeeta Yadav	

<b>8</b>	<b>Cyanobacteria: The Eco-friendly Tool for the Treatment of Industrial Wastewater</b> . . . . .	<b>163</b>
	Suraj Sen and Santosh Kumar Karn	
<b>9</b>	<b>Constructed Wetlands: An Emerging Green Technology for Phosphorus Treatment in Industrial Wastewater</b> . . . . .	<b>185</b>
	Valentina Carrillo, Ana María Leiva, and Gladys Vidal	
<b>10</b>	<b>Megaplastics to Nanoplastics: Emerging Environmental Pollutants and Their Environmental Impacts</b> . . . . .	<b>205</b>
	Sayali S. Patil, Rohit V. Bhagwat, Vinay Kumar, and Trupti Durugkar	
<b>11</b>	<b>Biosorption of Heavy Metals: Potential and Applications of Yeast Cells for Cadmium Removal</b> . . . . .	<b>237</b>
	Bashar Hadi and Muftah H. El-Naas	
<b>12</b>	<b>Toxic Elements in Bangladesh's Drinking Water</b> . . . . .	<b>273</b>
	Tahera Akter, Safayet Khan, and Mahfuzar Rahman	
<b>13</b>	<b>Bacterial Conversion of Waste Products into Degradable Plastics: An Inexpensive Yet Eco-friendly Approach</b> . . . . .	<b>297</b>
	Naima Khan and Nazia Jamil	
<b>14</b>	<b>Treatment of Leather Industry Wastewater and Recovery of Valuable Substances to Solve Waste Management Problem in Environment</b> . . . . .	<b>311</b>
	Manish Chandra Kannaujiya, Tamal Mandal, Dalia Dasgupta Mandal, and Monoj Kumar Mondal	